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# JOURNAL OF BUSINESS ADMINISTRATION AND MANAGEMENT

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# IMPACT OF MODERN TECHNOLOGIES ON ENTREPRENEURIAL VENTURES IN DEVELOPING COUNTRIES

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## ABSTRACT

*The negative consequences of underdevelopment in the developing countries need an immediate solution so as to free millions of people affected by it. This solution has found expression in entrepreneurship. As a matter of fact, a survey on entrepreneurship in developing countries conducted in 2002 had it that "there is a growing evidence of a significant causal relationship between entrepreneurship, economic growth and poverty reduction. In other words, fostering the development of entrepreneurship to help people employ themselves and others may offer the best hope for breaking the poverty cycle in many developing countries. This paper seeks to show that modern technology has become a tool in fostering such development. Evidently, the advent of computers and improved telecommunication systems has caused citizens of developing nations to make steady progress in entrepreneurship.*

***Keywords: Impact, Technologies, Entrepreneurship, Ventures, and Developing Countries.***

## INTRODUCTION

Developing countries are characterized by underdevelopment which Groulet (1971.21) and Ezeanyika (1999.20) described in the following words: "Underdevelopment is shocking the squalor disease, unnecessary deaths, and hopelessness of it all: No man understands if underdevelopment remains for him or mere statistic reflecting low income, poor housing, premature mortality or unemployment. The most emphatic observer can speak objectively about underdevelopment only after undergoing personally or vicariously the shock of underdevelopment. The unique culture shock comes to one as he is initiated to the emotions that prevail in the poverty. The reverse shock is felt by those living in destitution when a new self understanding reveals to them that their life is neither human nor inevitable. The prevalent emotion of underdevelopment is a sense of personal and societal importance in the face of disease and death, of confusion and ignorance as one gropes to understand change, and servility towards men whose decisions govern the course of events, of hopelessness before hunger and natural catastrophe. Chronic poverty is a cruel kind of hell, and one can not understand how cruel that hell is merely by gazing upon poverty as an object" On the converse side of underdevelopment and its features comes development. South Commission report (1993) and Ezeanyika (1999) summarized development this way: "Development is a process of self reliant growth, achieved through the participation of the people under their own interests as they see them, and must be to end poverty, provide productive employment and satisfy the basic needs of all the people, any surplus being fairly shared. This implies that the basic goods and services such as food and shelter, basic education and health facilities, and clean water must be accessible to all. In addition, development presupposes a democratic structure of government, together with its supporting individual freedoms of speech, organization, and publication, as well as system of justice, which protects all the people from actions inconsistent with just laws, that are known and publicly accepted" The foregoing expressions reveal two things: First, that the negative consequences of underdevelopment in the developing countries need an immediate solution so as to free millions of people affected by it. Second, that development is the solution to the problem of underdevelopment. The question then arises: Where should the developing countries turn to for this solution expressed in development? In this connection the result of a survey on entrepreneurship in developing countries conducted in 2002, had it that "there is a growing evidence of a significant causal relationship between entrepreneurship, economic growth and poverty reduction. Fostering the development of entrepreneurship to help people employ themselves and others, may offer the best hope for breaking the poverty cycle in many developing counties. Technology seems to be the catalyst for such development. Modern technology has become a tool in fostering the development of entrepreneurship. According to Ibenta (2000), one of the fascinating phenomena of the last decades of the twentieth century has been the incredible acceleration of change, propelled by the rapid progress recorded in the area of science and technology. On the eve of the twenty-first century, citizens of various nations began to make steady progress in entrepreneurship owing to the advent of computers and improved telecommunication system, coupled with the scarcity of employment opportunities as well as low per-capital income. The air of victory

in science and technology therefore seems to intensify the concern for entrepreneurial growth of developing countries of the world, as this will reduce their inability to solve the basic problems of society such as wide spread poverty, hunger and disease, inadequate shelter and environmental squalor, lack of good and motorable road network, portable water, electricity and telecommunication facilities. To appreciate the impact of modern technologies on entrepreneurial ventures in developing countries, we make bold to assert that technology consists of technical information and scientific knowledge, which can be geared towards economic production, improvement of life and environment, solving problems in every area of living and so on. A technology can be an invention, an industrial design, a skill, technical information, a new plant hybrid, service provided and so on (Kupoluyi 1991). Technology can also be seen as the social pool of the industrial arts. It is simply the means or capacity to perform a particular activity. It can also be defined as the combination of types of knowledge indispensable to carrying out the necessary operation for transforming the factors of production into product, the use of that knowledge or the provision of services. In other words, it is the rational, organized incorporation of scientific knowledge into the system of production (Fransman, 1986). The crucial question we are concerned with in this paper is this: If the developing countries can not take a position among the world of inventors, can't they at least adapt and effectively utilize the scientific inventions and the technology already developed in the advanced nations to stimulate entrepreneurial growth which ultimately act as a catalyst to economic development? If they have already been adapting, then the next question will be: how has this technology been impacting on their economic development; or strictly put, their entrepreneurial growth? We shall discuss this theme under the following headings:

(i) Entrepreneur and Entrepreneurship – an overview
(ii) Entrepreneurial venture formation
(iii) The role of modern technology in Entrepreneurial growth of developing countries
(iv) Conclusion
(v) Recommendations for operation, programmes and policies to improve technological capacity of developing countries.

## ENTREPRENEUR AND ENTREPRENEURSHIP – AN OVERVIEW

According to Amadasun (2003) the term entrepreneur has been defined by many scholars in different dimensions but with the single trait of risk taker and organizer/decision maker or taker running through all of them; and profit being the ultimate aim and reward of his adventure. To this end, Fred Ndechukwu (2001) states that the entrepreneur is largely viewed as that individual who takes upon himself the risk of going into business with the expectation of earning all the profits and losses. He is, in economics, regarded as a special type of labour that assembles all the other factors of production, namely, capital, land, and labour and endeavours to ensure optimal combination of these resources to maximize profit. In this paper, we shall define an entrepreneur as an inventor of a new business for the purpose of economic survival and social impact. On the other hand, the term entrepreneurship can be defined as a practical creativeness which combines resources and opportunities in new ways. It involves the application of personal qualities, finance, and other resources within the environment of business success (Maris, et al, 1972) Entrepreneurship can further be defined as the willingness and the ability of an individual to seek out an investment opportunity, establish an enterprise based on this and run it successfully. It is actually concerned with creating opportunity and meeting the needs of individuals, and it is a process of identifying gaps in one's immediate environment (community and society at large) and bringing together resources in an innovative way to fill these gaps (Emmanuel 2002). Simply put, however, Entrepreneurship is accepting the risk of starting and running a business.

## ENTREPRENEURIAL VENTURE FORMATION

In the developing countries, the need to have a large number of entrepreneurs cannot be over-flogged. But how can it be formed? According to Hisrich Peters (1998) entrepreneurial venture formation begins with a decision to become an entrepreneur by leaving present activity. The figure below depicts the argument:

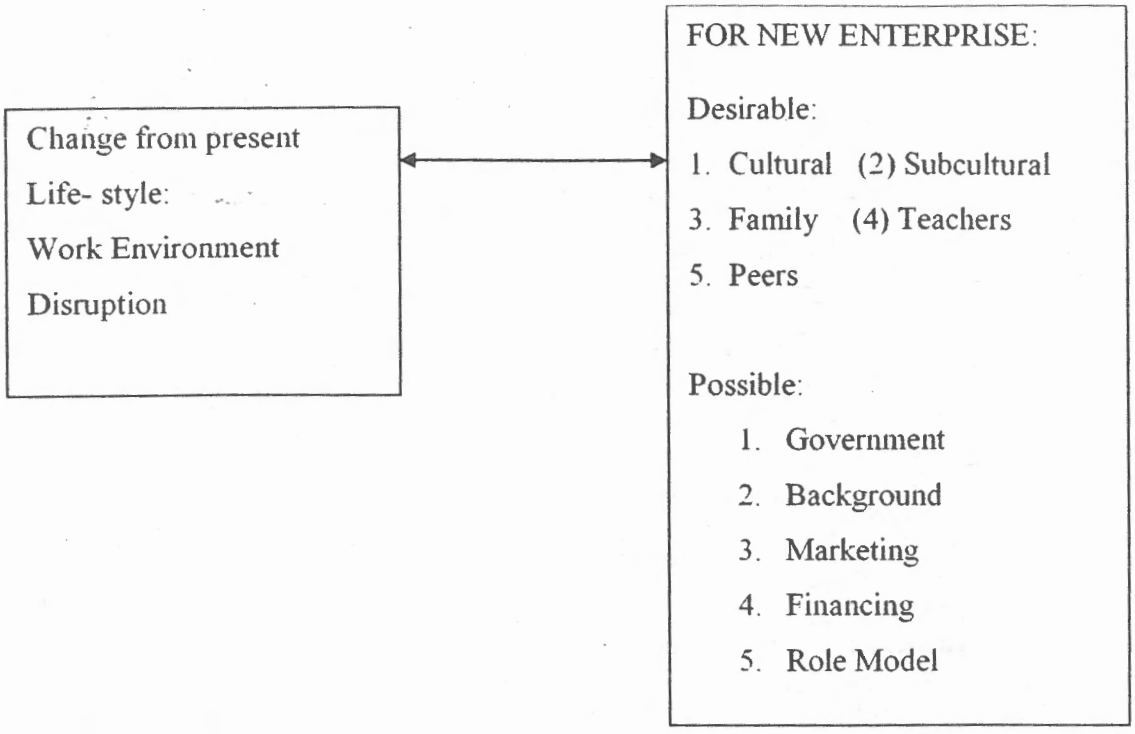


**FIGURE 1.1 DECISIONS FOR A POTENTIAL ENTREPRENEUR**

SOURCE: *Robert D. Hisrich, "Entrepreneurship and intrapreneurship: methods for creating New Companies that have an Impact on the Economic Renaissance of an Area" In Entrepreneurship, Intrapreneurship, and venture capital. Ed. Robert D. Hisrich (Lexington, MA: Lexington* Books, 1986), P.90. Like all processes, Peters further argues that the entrepreneurial decision entails a movement, from something to something, a movement from a present life style to forming a new enterprise as indicated above. Two factors within the work environment are frequently cited as impetus for spawning new enterprises: Technology and marketing. While working in technology which is acquired through research and development, individuals develop new product ideas or processes and often leave to form their own companies when these new ideas are not accepted by their employers. In the same vein, individuals in marketing have become familiar with the market and the customers' unfilled needs and wants, and they frequently leave to start new enterprises to fill these needs. Hisrich stretches the argument further by stating that 'an even stronger incentive to overcome the inertia and leave a present life style to create something new comes from a negative force – disruption. To him, disruption is the personal dislocation that galvanizes a person's will to act; and this dislocation could mean retirement, demotion, sack or even refusal by management to effect a deserving promotion. A fresh dimension to the foregoing argument is that modern technology is a critical factor to consider in either of the cases (Work environment and disruption). On the aspect of work environment, Hisrich (1986), Peters (1998), and a host of other scholars argued that a technology-driven change is occasioned by the refusal of the employer to adopt a new idea or process developed by the employee in his research and development effort. But a worker can also leave to form his own company when he discovers that his employer is reluctant to adopt a modern technology that is in use in similar organizations. For instance, a bank that refuses to adopt the use of counting machine and computer like its new generation counterparts may end up frustrating its workers (cashiers) out of job; as this constitutes a disincentive in itself. It becomes compelling for the worker to leave, particularly when he thinks he has the capability to start up such business. This argument also applies to marketing personnel. A marketing staff can recommend an aspect of modern technology to be built into a product to enhance consumer patronage. Once this is refused by his employer, it becomes a ground to leave and fill such needs if he has the wherewithal. A change brought about by disruption can also be traced to modern technology. This can be on the positive or negative side. For example, an employee can leave a job to start something less challenging because he could not cope with the technology introduced into his paid employment. On the other hand, he can leave his present job in quest of better technology to apply his skill. For instance, a science teacher could leave a college that lacks modern equipment for his job, only to run his own institution if he has the resources to acquire the latest scientific equipment. The point that has been made so far is that

modern technology is a critical factor in entrepreneurial venture formation; and this has been helping to boost the entrepreneurial growth of developing countries. Furthermore, the desirability of a new venture formation refers to the aspect of a situation that makes it desirable to start a new company. The perception that starting a new company is desirable result from an individual's culture, subculture,, family, teachers, and peers. A culture that values an individual who successfully creates a new business will spawn more venture formations than one that does not (Peters 1998). The Nigerian culture places a high regard on being one's own boss, having individual opportunity, being a success and making money – all aspect of entrepreneurship. Any developing country that has a pro-entrepreneur culture is likely to have a high business formation rate. Children acquire the encouragement and value for company-formation from parents and elders who have been entrepreneurs and enjoyed much independence. Further encouragement is stimulated by teachers who can significantly influence individuals regarding entrepreneurship as good possible career path as we do in Covenant University. Finally, peers are very important source of decision to form a company. For example, an area with an entrepreneurial proof and a meeting place where entrepreneurs and potential entrepreneurs can discuss idea, problems, and solutions spawns more new companies than an area where these are not available. Possibility of a new venture formation refers to the factors making it possible to create a new venture. These factors are government, background, marketing, role models and finances. The government contributes by providing the infrastructure to help and support a new business venture. It is no wonder that entrepreneurial growth is slow in many developing countries-given the absence of good road networks, communication and transportation system, utilities and economic stability. As infrastructures improves in response to modern technology many business will be created. In Nigeria, for example, the advent of General System for Mobile communication (G.S.M), with modern road networks constructed by our Government, has increased the rate of company formation by the citizens. The prospective entrepreneur must also have the necessary background. This may mean a formal education or previous business experience, as they will give the entrepreneur the skills needed in forming and managing a new enterprise. Marketing also plays a critical role in forming a new company. In addition to the presence of a market of sufficient size, there must also be a level of marketing know-how to put together the best total package of product, price, distribution, and promotion needed for successful product launching. Hisrich (1998) maintains that a company is more easily formed where the driving force is from market demand followed by a technology push; This is incontrovertible! A role model can be one of the most powerful influences that make entrepreneurship seem possible. To see someone else succeed makes it easier to picture yourself engaged in a similar activity, and become very more successful. Finally, financial resources must be readily available, although most of the start-up money for any new company comes from personal savings, credit, friends, and relatives, there is often a need for additional seed capital. Risk-capital availability plays an essential role in the development and growth of entrepreneurial activity, more new companies form when seed capital is readily available.

## ROLE OF MODERN TECHNOLOGIES IN ENTREPRENEURSHIP

Another perspective where the impact of modern technologies has become apparent relates to the end-results of the product evolution process, which are aircraft, houses, cars, computers, telephones, etc. This technological break-through can give rise to entrepreneurial venture formation, and solve some of the basic problems of society such as employment generation and poverty reduction. For examples, through the production of aircrafts, airline companies can be formed, through the production of automobiles, road transport companies can be formed, and through telephone companies giant strides can be achieved in businesses. In fact, the electronic computer is central to many of the advances in communication technology: computerized electronic switching systems for the telephone industry, computerized information storage retrieval systems, computerized word processing, miniaturization, the use of orbiting earth satellites and televised conferencing have rapidly changed the way individuals, businesses and countries communicate with each other, and has promoted explosive entrepreneurship in information industry. It covers all fields where information is transferred from one point to another: in education, libraries, airline reservation, banking and inter computer data transfers, etc. (H. Vail 1978). As Ibenta (2000) has stated, some recent information indicates that the expansion of scientific data is estimated to be approaching the rate of 250 million pages a year. By the same token, 500 million words-about 10,000 average-size books could be stored in a single hologram or a miniature computer. Further improvement in communication have brought about the capability of making the information contained in the international networks accessible on the touch of a few buttons on an expensive terminal. For example a subscriber to any magazine may be able to punch button on a home TV screen and call up the latest reports on a daily basis. Again with the advent of electronic funds transfer, the credit card, or integrated circuits, traditional booking techniques may give way to cashless society.

Further application of the computer to communications is computer conferencing. Here remote terminal equipment, shared computer files and the telecommunication network are used to facilitate group communication thereby eliminating the need to travel long distance frequently for meetings in widely dispersed businesses and thereby reducing the risk and cost of doing business in the process. Currently, direct satellite communications transmit information direct to the user. For example, direct broadcast of radio or television to the home through the community microwave antennae, plane to plane or ship to shore, etc. Besides, electronics and computer technology are changing the creative aspects of book, magazine and newspaper production, architectural and engineering designs, product designs in addition to the ability of performing thousands of computations per second. In fact, new electronic technology offers so many opportunities for productive innovations and communications that the concept of office as a set of connected rooms with people working in them may become outmoded by the end of this 21st century. Finally, modern technological changes have made it possible for various agencies to provide networks that allow trading to be conducted such that buyers and sellers could complete transaction anywhere in the world at any time. The trading could be in shares, bonds, commodities or foreign exchange.

## TECHNOLOGICAL PROGRESS AND ENTREPRENEURIAL GROWTH OF DEVELOPING COUNTRIES

From the foregoing discussion, it is clear by now that the creation and diffusion of the technological knowledge is at the heart of modern entrepreneurial growth of many developing countries. In fact, the main issues of technological change, is the source of entrepreneurial growth in the industries of the developing countries of the world; although the contribution of these countries in the sphere of technology to world progress is virtually nil. This technological change means the provision of new information or knowledge that is used effectively in industrial operations and has measurable effect on costs, product qualities, level of output or sales and other ancillary operations of the firm. If, for example, there is introduction of new machinery, a complicated or electronic gadget without the knowledge of how to operate or use it effectively (this happens too often in our industries and organizations) no change in operations will take place and these should not be regarded as technological change or progress. The definition also includes the provisions of new information that affect management. For example, in the control inventories, cost of finance or marketing. Another concept that requires clarification is that of transfer or acquisition and mastery or technology by the developing countries. When the term was first used in the industrialized countries, technology transfer meant optimization of commercial value of innovation based on scientific technology. That is, how to move research results from the laboratory, or inventions from the test bench to the market place most efficiently. Transfer implies ability to interpret, operate, assimilate, adapt and above all transmit the knowledge in the economy's actual transformation activities. According to Ibenta (2000), integrated technology transfer connotes that the transfer of basic scientific knowledge and technical know-how involve a combination of the learning to know process with that of learning to do. These processes seem empirically inseparable if social development and economic well-being are to be achieved. When transmission of knowledge occurs, there is genuine effort to adapt the technology to the environment and to use local raw materials, spare part or equipment-inducing imitation and further ramification to raise the general technological level of the economy. In other words, a real contribution is made to the advancement and development of the country. This takes us to the concept of technological capability! During the 1980's, the concept of technological capability became popular in the literature. Technology in developing countries as the focus of research attention shifted away from the earlier concerns with the cost and problems of transfer of technology and choice of technique. Researchers became interested in the factors influencing the acquisition and assimilation of imported technology and the determinant of its further development. The centrality of indigenous technological capabilities in these processes soon became apparent (Fransiman 1986). Technological capacity or capability can be defined as the portion of the existing technology which a people commands, "weighted" by its distribution among the labour force. This factor is unquestionably the nation's most important economic resource. By the same token, the rate at which the technological capability grows sets what is probably the most important ceiling on its long – term rate of economic growth. This rate of growth of the nation's technological capacity depends jointly on the rate at which it produces new technology and the rate at which it disseminates the old. (SCHMOOKLER, 1966). As we have noted earlier on, the entrepreneurial growth and technological progress of any economy come only when the resulting knowledge is used to produce either more knowledge or ordinary goods and services. Technology is thus a tool of development, which has value only to those who are able to understand and utilize it (Ibenta 2000).

## CONCLUSION

Modern technology has become a desideratum for the increase in the number of entrepreneurial ventures in developing countries. The reason is not far fetched: Technological breakthroughs have given rise to one form of entrepreneurial venture or the other. For example, the advent of computer has brought about computer training and services, as well as cyber café; automobiles and good roads have given rise to transport services, etc. The growth of such small businesses is indeed what developing countries require for rapid economic growth. Thus entrepreneurial growth must be complemented with technological progress if there must be development in real terms.

## RECOMMENDATIONS

It is here recommended that our government, organizations, and NGOs should periodically organize training programmes for prospective entrepreneurs in the area of technology. This kind of programme will get them better equipped for entrepreneurial activities. Business houses are encouraged to adopt new technologies as soon as they are discovered. This will enable them keep pace with the changing needs and preferences of consumers. Much as the fundamental objective of developing countries is to arrive at a sustainable degree of economic growth, well being, and progress; the strategy should begin by recognizing that science and technology are activities which should be planned to fit into the overall planning of national development. The domestic policy of all developing countries should focus on the structure of industries and on such issues as competition vis-à-vis regulation in the computer and telecommunication industry. Since many entrepreneurial innovations are achieved on the basis of readily available knowledge, the training and practical experience of the local technical and professional labour force becomes a critical factor. The government of developing nations should strive to increase significantly their aggregate net investment in scientific technological education considering its critical role in the transformation process. Besides, a greater challenge for business is to develop a social agenda that identifies ways to contribute to upgrading environment by the provision of infrastructure and training of skilled manpower. Business-Government collaboration on these problems will be good for the developing countries as well as businesses. We further restate and agree with the recommendation of Ibenta (2000) that a Bank of technology be created in developing countries to help provide the necessary risk capital for the development of research in science and technology, finance industrial innovations and renovations, provide technical consultancy services especially to entrepreneurs or SMEs: and coordinate and commercialize results of Research and Development activities.

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